

Abstract of the Disclosure

An apparatus is provided for hematology testing, which has a sensing unit defining a counting orifice for the flow of a blood sample through the counting orifice to analyze the blood sample, and a pump unit having three syringes. A first syringe is coupled in fluid communication with the sensing unit on the inlet side of the counting orifice for injecting a stream of blood sample through the counting orifice. A second syringe is coupled in fluid communication with the sensing chamber on the inlet side of the counting orifice for simultaneously injecting a sheath of fluid surrounding the sample stream on the inlet side of the counting orifice. And a third syringe is coupled to the sensing chamber on the outlet side of the counting orifice for aspirating a sheath of fluid from the sensing chamber surrounding the sample stream on the outlet side of the counting orifice.